

CLAIM AMENDMENTS

Please cancel Claims 25-28 and 32-34, without prejudice or disclaimer of subject matter, and please amend Claims 29-31 and 35, and add new Claims 36-40 as indicated below.

29. (Currently Amended) An image processing apparatus according to claim 25 comprising:

a signal inputter, arranged to input an image signal of a frame;

a detector arranged to detect an image change by comparing the inputted image signal with a reference image signal; and

a storage unit, arranged to update the reference image signal by storing the inputted image signal as the reference image signal on a frame basis when said detector detects the image change, and not to update the reference image signal when said detector detects that there is not an image change.

wherein said detector calculates a pixel value difference between each pair of corresponding pixels using the image signal and the reference image signal, determines, if a corresponding pixel value difference is larger than a first threshold value, that a pixel change has occurred, and determines, if the [[a]] number of pixels having undergone changes in an entire frame is larger than a second threshold value, that a frame change has occurred.

30. (Currently Amended) An image processing apparatus according to claim 25 comprising:

a signal inputter, arranged to input an image signal of a frame;

a detector arranged to detect an image change by comparing the inputted image signal with a reference image signal; and

a storage unit, arranged to update the reference image signal by storing the inputted image signal as the reference image signal on a frame basis when said detector detects the image change, and not to update the reference image signal when said detector detects that there is not an image change,

wherein said detector divides the image signal and the reference image signal into a plurality of blocks, calculates the sum total of pixel value differences between corresponding pixels using the image signal and the reference image signal in units of blocks, determines, if the sum total is larger than a first threshold value, that a corresponding block has undergone a change, and determines, if the ~~the~~ number of blocks having undergone changes in an entire frame is larger than a second threshold value, that a frame change has occurred.

31. (Currently Amended) An image processing apparatus according to claim 25 comprising:

a signal inputter, arranged to input an image signal of a frame;

a detector arranged to detect an image change by comparing the inputted image signal with a reference image signal; and

a storage unit, arranged to update the reference image signal by storing the inputted image signal as the reference image signal on a frame basis when said detector detects the image change, and not to update the reference image signal when said detector detects that there is not an image change,

wherein said detector divides the image signal and the reference image signal into a plurality of blocks, calculates a pixel value difference between each pair of pixels corresponding to the image signal and the reference image signal, determines, if each pixel value difference is larger than a first threshold value and a corresponding pixel which has undergone changes in a block is larger than a second threshold value, that the block of the corresponding pixel has undergone a change, and determines, if the ~~[[a]]~~ number of blocks having undergone changes in an entire frame is larger than a third threshold value, that a frame change has occurred.

35. (Currently Amended) An image processing method comprising the steps of:

a) ~~an input step of~~ inputting an image signal of a frame;

b) ~~a detection step of~~ detecting an image change by comparing the inputted image signal with a reference image signal; and

c) ~~a storage step of~~ updating the reference image signal in accordance with a detection result in said detecting detection step,

wherein said ~~storage~~ updating step includes storing the inputted image signal as the reference image signal on a frame basis when said detecting ~~detection~~ step detects an image change, and does not store the inputted image signal as the reference image signal when said detecting ~~detection~~ step detects that there is not an image change, and

wherein said detecting step includes calculating a pixel value difference between each pair of corresponding pixels using the image signal and the reference image signal, determining, if a corresponding pixel value difference is larger than a first threshold value, that a

pixel change has occurred, and determining, if the number of pixels having undergone changes in an entire frame is larger than a second threshold value, that a frame change has occurred.

36. (New) An image processing method comprising the steps of:

inputting an image signal of a frame;

detecting an image change by comparing the inputted image signal with a reference image signal; and

updating the reference image signal in accordance with a detection result in said detecting step,

wherein said updating step includes storing the inputted image signal as the reference image signal on a frame basis when said detecting step detects the image change, and does not store the inputted image signal as the reference image signal when said detecting step detects that there is not an image change, and

wherein said detecting step includes dividing the image signal and the reference image signal into a plurality of blocks, calculating the sum total of pixel value differences between corresponding pixels using the image signal and the reference image signal in units of blocks, determining, if the sum total is larger than a first threshold value, that a corresponding block has undergone a change, and determining, if the number of blocks having undergone changes in an entire frame is larger than a second threshold value, that a frame change has occurred.

37. (New) An image processing method comprising the steps of:

inputting an image signal of a frame;

detecting an image change by comparing the inputted image signal with a reference image signal; and

updating the reference image signal in accordance with a detection result in said detecting step,

wherein said updating step includes storing the inputted image signal as the reference image signal on a frame basis when said detecting step detects the image change, and does not store the inputted image signal as the reference image signal when said detecting step detects that there is not an image change, and

wherein said detecting step includes dividing the image signal and the reference image signal into a plurality of blocks, calculating a pixel value difference between each pair of pixels corresponding to the image signal and the reference image signal, determining, if each pixel value difference is larger than a first threshold value and a corresponding pixel which has undergone changes in a block is larger than a second threshold value, that the block of the corresponding pixel has undergone a change, and determining, if the number of blocks having undergone changes in an entire frame is larger than a third threshold value, that a frame change has occurred.

38. (New) A computer-executable program stored in a computer-readable storage medium, comprising a program code for causing a computer to execute an image processing method, the image processing method comprising the steps of:

inputting an image signal of a frame;

detecting an image change by comparing the inputted image signal with a reference image signal; and

updating the reference image signal in accordance with a detection result in said detecting step,

wherein said updating step includes storing the inputted image signal as the reference image signal on a frame basis when said detecting step detects the image change, and does not store the inputted image signal as the reference image signal when said detecting step detects that there is not an image change, and

wherein said detecting step includes calculating a pixel value difference between each pair of corresponding pixels using the image signal and the reference image signal, determining, if a corresponding pixel value difference is larger than a first threshold value, that a pixel change has occurred, and determining, if the number of pixels having undergone changes in an entire frame is larger than a second threshold value, that a frame change has occurred.

39. (New) A computer-executable program stored in a computer-readable storage medium, comprising a program code for causing a computer to execute an image processing method, the image processing method comprising the steps of:

inputting an image signal of a frame;

detecting an image change by comparing the inputted image signal with a reference image signal; and

updating the reference image signal in accordance with a detection result in said detecting step,

wherein said updating step includes storing the inputted image signal as the reference image signal on a frame basis when said detecting step detects the image change, and

does not store the inputted image signal as the reference image signal when said detecting step detects that there is not an image change, and

wherein said detecting step includes dividing the image signal and the reference image signal into a plurality of blocks, calculating the sum total of pixel value differences between corresponding pixels using the image signal and the reference image signal in units of blocks, determining, if the sum total is larger than a first threshold value, that a corresponding block has undergone a change, and determining, if the number of blocks having undergone changes in an entire frame is larger than a second threshold value, that a frame change has occurred.

40. (New) A computer-executable program stored in a computer-readable storage medium, comprising a program code for causing a computer to execute an image processing method, the image processing method comprising the steps of:

inputting an image signal of a frame;

detecting an image change by comparing the inputted image signal with a reference image signal; and

updating the reference image signal in accordance with a detection result in said detecting step,

wherein said updating step includes storing the inputted image signal as the reference image signal on a frame basis when said detecting step detects the image change, and does not store the inputted image signal as the reference image signal when said detecting step detects that there is not an image change, and

wherein said detecting step includes dividing the image signal and the reference image signal into a plurality of blocks, calculating a pixel value difference between each pair of pixels corresponding to the image signal and the reference image signal, determining, if each pixel value difference is larger than a first threshold value and a corresponding pixel which has undergone changes in a block is larger than a second threshold value, that the block of the corresponding pixel has undergone a change, and determining, if the number of blocks having undergone changes in an entire frame is larger than a third threshold value, that a frame change has occurred.